

Work Order ID 155243***155243***

Page 1

Thursday, January 12, 2017 11:26:21 AM

Item ID: D3016-15

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Gusset

Start Date: 1/16/2017 Start Qty: 6.00

6

Cust Item ID:

Required Date: 1/20/2017 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan:

DAS
21
9-89

Date: JAN 12 2017

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3016

Rev A

100

0.07

100

FLOW WATER JET

Waterjet

Memo

0.02

FLOW CNC Waterjet

1-Cut as per Dwg D3016 Dwg Rev: A Prog Rev: A 2-
Deburr if necessary

⑥

DEC 17 / 01 / 19

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.02

Quality Control

⑥

DEC 17 / 01 / 19

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.02

Quality Control

⑥

DAS
38
9-89

JAN 20 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
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Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 155243

Thursday, January 12, 2017 11:26:21 AM

155243

Page 2

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Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Gusset

Start Date: 1/16/2017 Start Qty: 6.00 ***6***

Cust Item ID:

Required Date: 1/20/2017 Req'd Qty: 6.00 ***6***

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

130

Packaging

Packaging

Packaging

Memo

Identify and bag with light oil (Vactra oil #2), then Stock *****STOCK IN
LARGE FAB*****
LOCATION WA002

0.00

0.00

DAS
6
9-89

JAN 24 2017

140

140

QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.10

DAS
21
9-89

JAN 26 2017

JAN 24 2017



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

Thursday, January 12, 2017 11:26:25 AM

Page 1 / 1

Work Order ID: 155243

155243

Parent Item: D3016-15

D3016-15

Parent Item Name: Gusset

Start Date: 1/16/2017

Required Date: 1/20/2017

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP B03.05.09ReformatKJ/RF
IPP Rev:C 08-04-11 now made on water jet DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NS.049		Purchased	No			100	sf	35.3132	0.0486	0.306947			

M4130NS 049

4130 Sheet .049

**

01/17/19

Location

Loc Qty

Loc Code

MAT019

35.3132

124283

35.3132

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

**DART**

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3016	REV. A SHEET 1 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE NTS
A	01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
X	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

NOTES

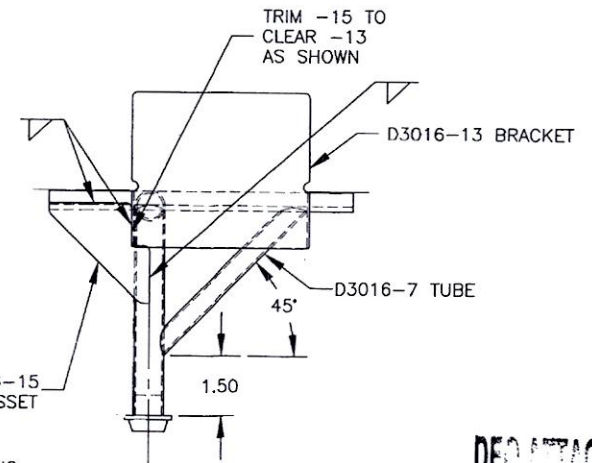
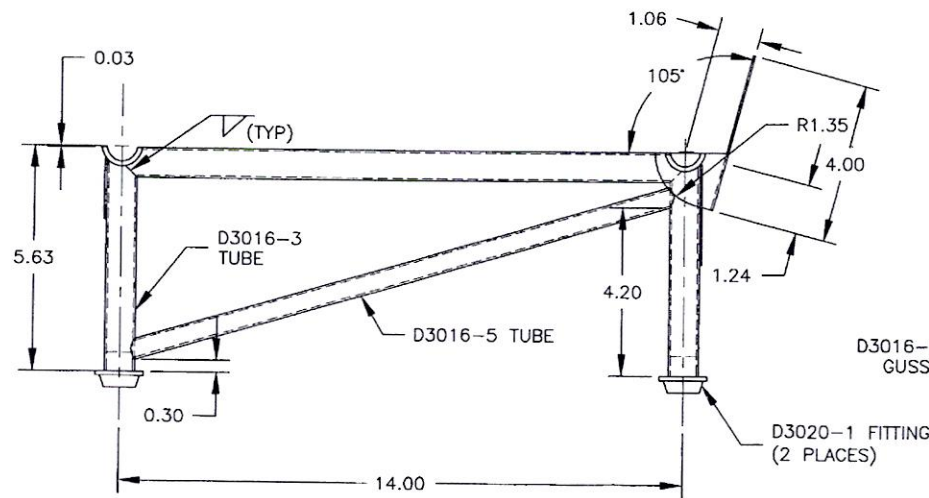
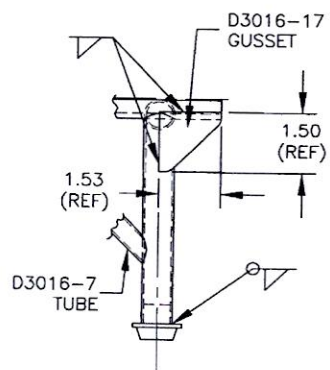
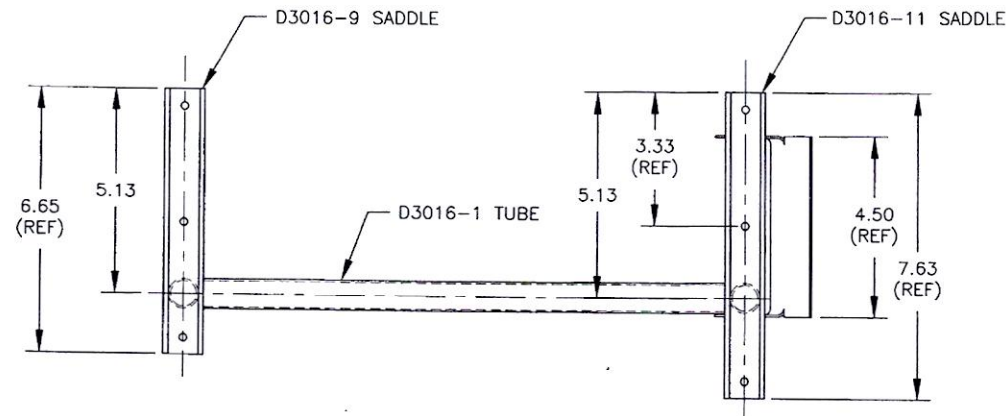
- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

NO. 155243 MJS
17-01-12
WORK ORDER
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

DEO ATTACHED**RELEASED**
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D3016-041 SEAT FRAME ASSEMBLY

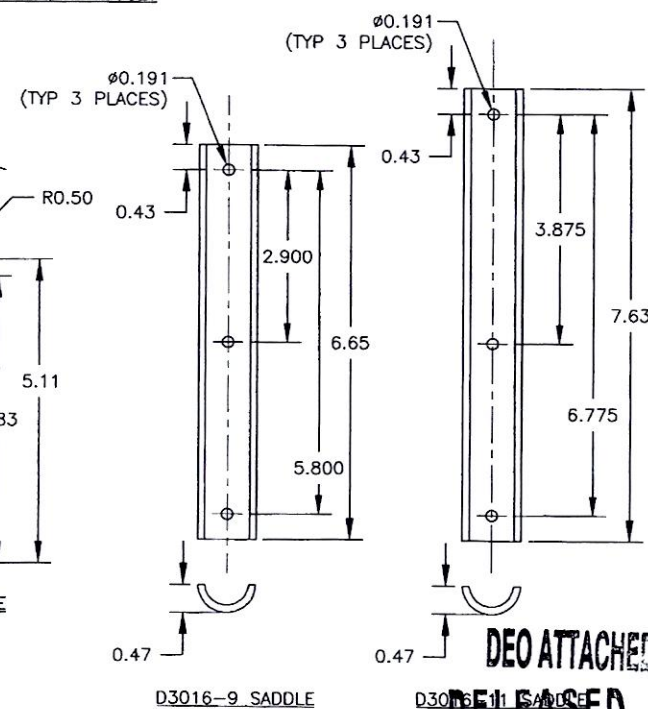
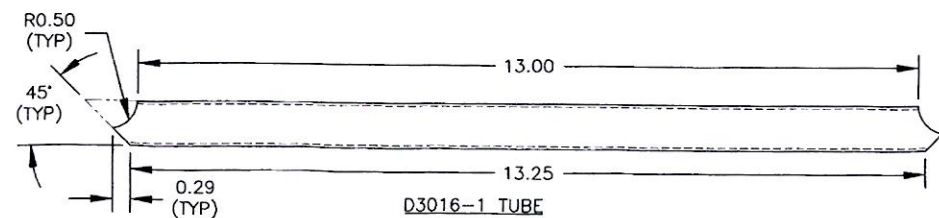
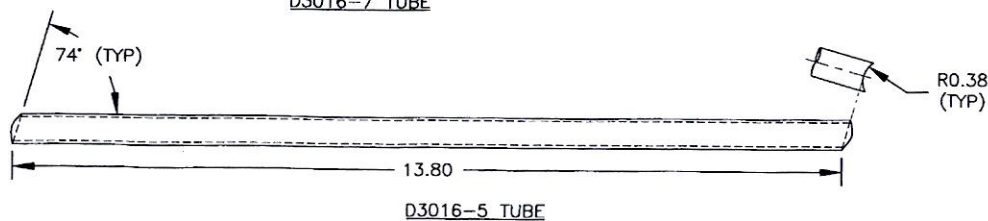
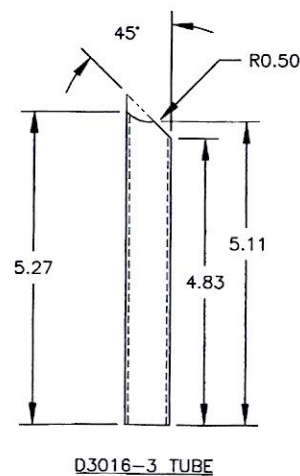
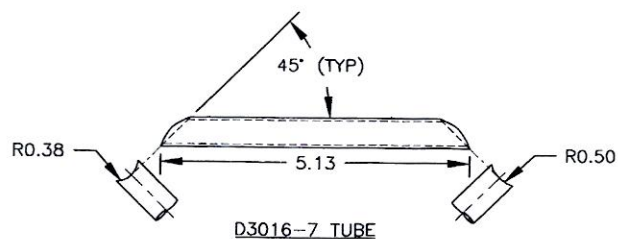
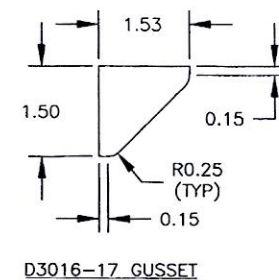
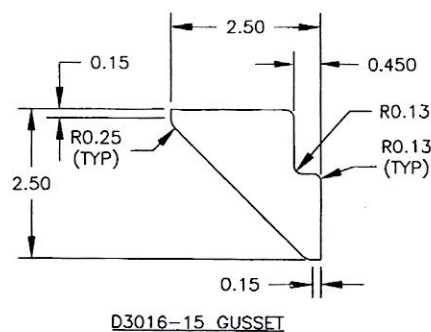
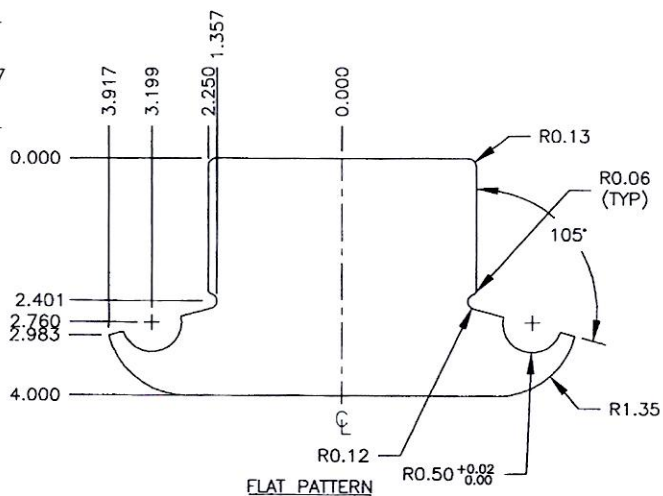
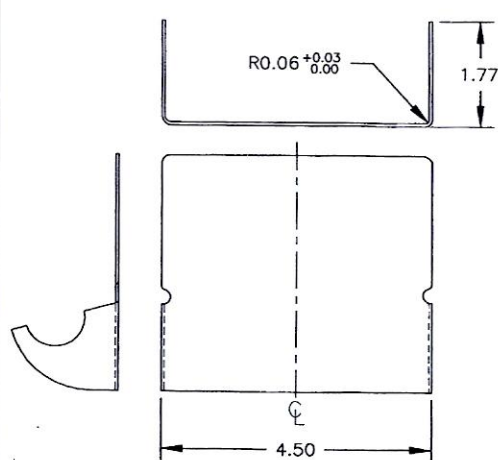


DETACHED
RELEASED
01.05.30

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DESIGN UP	DRAWN BY UP	DART	DART AEROSPACE LTD. WARKESBURY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D3016	REV. A
DATE 01.05.18	TITLE SEAT FRAME ASSEMBLY	SHEET 2 OF 3	SCALE 1:3



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DESIGN CP	DRAWN BY CP	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED *	APPROVED *	DRAWING NO. D3016	REV. A SHEET 3 OF 3
DATE 01.05.18	TITLE SEAT FRAME ASSEMBLY	SCALE 1:2	

DEO ATTACHED
RELEASED
9.05.30

DRAWING NO. D3016	TITLE SEAT FRAME ASSEMBLY	REV. A	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3016-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>1</i>	CHECKED <i>UP</i>	MFG. APPR. <i>EE</i>	APPROVED <i>WAP</i>	DE APPR. <i>W</i>		
DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29		

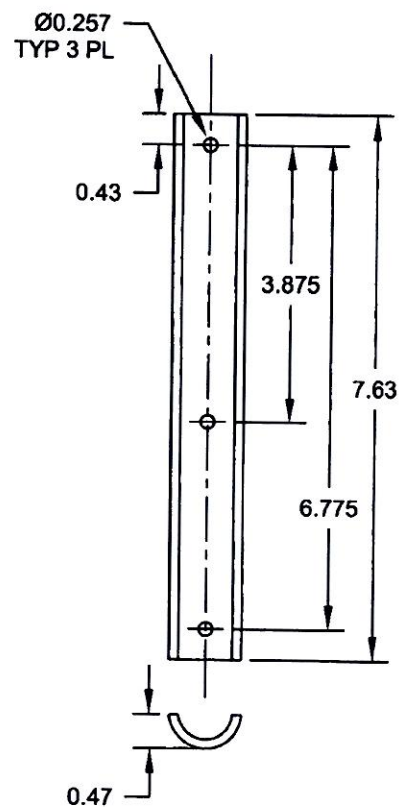
PURPOSE:

TO REVISE D3016-11 SADDLE'S HOLE SIZES

CHANGE:

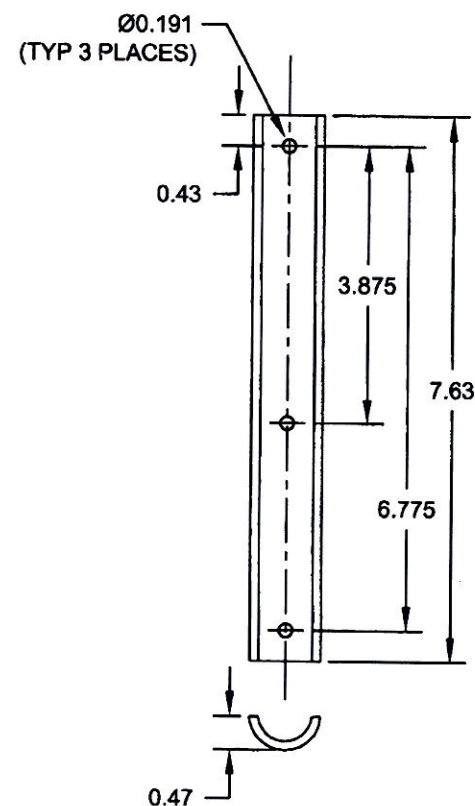
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

IS:



D3016-11 SADDLE

WAS:



D3016-11 SADDLE